

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS
EASTERN DIVISION**

TERRIE BANHAZL d/b/a HEIRLOOM CERAMICS,
Plaintiff

v.

THE AMERICAN CERAMIC SOCIETY,
Defendant.

Civil Action No:
1:16-cv-10791-ADB

JURY TRIAL DEMANDED

THE AMERICAN CERAMIC SOCIETY,
Counter-Plaintiff

v.

TERRIE BANHAZL d/b/a HEIRLOOM CERAMICS,
Counter-Defendant.

**PLAINTIFF TERRIE BANHAZL'S OPENING
CLAIM CONSTRUCTION MEMORANDUM**

INTRODUCTION

Plaintiff and Counter-Defendant Terrie Banhazl (“Banhazl” or “Plaintiff”) sued Defendant and Counter-Plaintiff the American Ceramic Society “Defendant”) for directly infringing and inducing infringement of claims 1-2 and 4-9 of U.S. Patent No. 7,622,237 entitled “System, Apparatus, and Method for the Permanent Transfer of Images onto Glossy Surfaces” issued on November 24, 2009 (“ ’237 Patent” or “Patent”) and attached hereto as Exhibit 1. The Defendant contends that it does not infringe any asserted claim of the ’237 Patent, directly or indirectly, and/or that the asserted claims are invalid.

The first step of the analysis with respect to both infringement and validity is claim construction. Although briefing on the claim construction issues may assist the parties in narrowing disputes, the parties presently disagree regarding the constructions of the claim limitations addressed herein.

SUMMARY OF THE INVENTION

The patented invention is a method of transferring a printed image onto glossy substrates, such as glass or ceramics. *See* ’237 Patent Abstract. More specifically, a user may print or copy an exact image using an off-the-shelf printing device with toner containing iron oxide to imprint the image onto a film covered transfer paper or waterslide decal paper. *See id.* The film covered transfer paper is moistened so the paper backing of the film is removed. *See id.* The remaining film is directly applied to a glossy surface with the image facing away from the substrate. *See id.* and FIG. 1. In other words, the film is in between the printed image and the substrate. It is then fired in a kiln where the surface of the glossy substrate softens and the film of the transfer paper evaporates away, leaving the iron oxide pigmented image fused to the glossy substrate. *See id.* and FIGS. 1 and 2.

The ingenuity behind the claimed method stems from its simplicity. Prior to the claimed method, the ability to easily and safely affix a high-quality image onto a fireable ceramic or glass surface without the use of special equipment, toxic solvents, or specialized training was “impossible.” *See* ’237 Patent, Col. 1, Ln. 26. The most common method required the use of silk screens that generated poorer quality images. *See id.* at Col. 1, Lns. 30-35. An alternative method, the thermal transfer printing method, required specialized equipment containing ceramic colorant infused ribbons. *See* U.S. Patent No. 6,694,885 to Geddes (2004). Another method required large, retrofitted printers replacing standard ink with ceramic pigments. *See* U.S. Patent No. 5,972,548 to Landa (1999).

These prior processes required the amount of ink, toner or glaze to be carefully monitored for evenness and thickness. *See* ’237 Patent at Col. 1, Lns. 51-53. In some cases, the transfer agent had to be pulled from the machine before entering the fusing heat rollers of standard printing equipment. *See* U.S. Patent No. 5,948,471 to Zimmer (1999). Additionally, the previous methods of transferring images required the image to make direct contact with the ceramic surface either by using silk screens or colorant infused printing ribbons, or by using the traditional one layer transfer agent with cover-coats of solvents. *See, e.g.,* U.S. Patent No. 6,110,632 to Dunford (2000); U.S. Application 2003013027 to Wallace (2003); and U.S. Patent No. 6,694,885 to Geddes (2004). Proper application of these potentially toxic cover coats requires a high degree of skill. *See* ’237 Patent at Col. 2, Lns. 5-8.

The use of pre-coated transfer agents required printing the mirror image of the original, and flipping the agent over so the side with the printed image can make direct contact with the ceramic surface. *See* ’237 Patent at Col. 2, Lns. 9-13. As accessibility to off-the-shelf laser printers grew, some methods involved printing the image with iron oxide toner onto a one-layer transfer paper. However, this still required direct contact with the ceramic surface. Solvent based

cover coats were necessary to make such direct contact, but resulted in inconsistent image quality. *See, e.g.*, GB2151189 to Blow (1984).

On the other hand, some methods using traditional laser printers involved opening the printer to remove the printed image before it ran through the hot fusing rollers and pressing the image onto unglazed clay. *See* '237 Patent at Col. 2, Lns. 27-36. The clay could not be glazed because glazing would corrupt the image. *See id.* Without the glaze, the ceramic would remain porous. *See id.* Therefore, the ceramic could not hold liquid and would not be functional. *See id.*

Familiarity with the prior art reveals the improvement at the heart of the claimed method: the claimed method does not require specialized equipment, manipulation of standard equipment, monitoring the image for evenness or thickness, direct contact of the image with the ceramic surface, nor the addition of solvent based cover coats. *See* '237 Patent Abstract, FIGS. 1 & 2, and asserted claims. The simplicity of the claimed method allows hobbyists to affix images to ceramic or glass with ease. *See id.*

Additionally, the counterintuitive nature of the claimed method is the core of the invention. *See* '237 Patent at Col. 2, Lns. 65-67. The method uses a commercially available transfer material previously used exclusively for non-kiln fired decal applications. *See id.* “Because the printed image is applied with a layer of film sandwiched between the image and the substrate it is counterintuitive to believe that the image would survive the high firing temperatures of a kiln without being corrupted during the melting phase of the film.” '237 Patent, Col. 2, Ln. 67 – Col. 3, Ln. 4. However, although simple and counterintuitive, the claimed method results in high quality images affixed to fully functional ceramic.

The terms to be construed (bolded below) are set forth in exemplary claim 1 of the '237 Patent as follows:

1. A method of **permanently** transferring an image to a substrate having a **glossy surface**, including:
 - providing a sheet of **film-covered transfer paper** having the image printed on the film side of the transfer paper, wherein the **image is printed** with an iron-oxide based toner;
 - transferring the film to the glossy surface**; and
 - heating the substrate with the film to a temperature sufficient to **evaporate** the film and to **embed** the image into the glossy surface.

LEGAL PRINCIPLES OF CLAIM CONSTRUCTION

The construction of claim terms is a question of law. *See Markman v. Westview Instruments*, 517 U.S. 370, 372 (1996). In *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc), the Federal Circuit clarified that the guiding principle of construction is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of... the effective filing date of the patent application.” *See also, Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Courts properly seek clarification of meaning in “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Phillips*, 415 F.3d at 1314 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

Through that prism, claim construction normally begins with the claims themselves. *See Phillips*, 415 F.3d at 1312 (“the claims of a patent define the invention to which the patentee is entitled the right to exclude”). “In general, the scope and outer boundary of claims is set by the patentee’s description of his invention.” *On Demand Mach. Corp. v. Ingram Indus.*, 442 F.3d 1331, 1338 (Fed. Cir. 2006); *see also, Phillips*, 415 F.3d at 1315–1317 (“[T]he interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim”).

Furthermore, although claim terms are generally given their ordinary and customary meaning, the Federal Circuit has articulated that departure from the plain and ordinary meaning is appropriate in only two instances. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). The first is when a patentee acts as his own lexicographer. *Id.* The second is when the patentee disavows the full scope of the claim term in the specification or during prosecution. *Id.*

Disavowal can be effectuated by language in the specification or the prosecution history. *See Phillips*, 415 F.3d at 1316–17. In either case, the standard for disavowal requires “clear and unequivocal evidence that the claimed invention includes or does not include a particular feature.” *See Poly-America, L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016) (citations omitted). While disavowal must be clear and unequivocal, it need not be explicit. *See Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1363–64 (Fed. Cir. 2016). An inventor may disavow the scope of the claims when the inventor disavows claims lacking a particular feature when the specification describes “the present invention” as having that feature. *See e.g., Luminara Worldwide, LLC v. Liown Elecs. Co.*, 814 F.3d 1343, 1353 (Fed. Cir. 2016). Additionally, “an inventor may disavow claims lacking a particular feature when the specification distinguishes or disparages prior art based on the absence of that feature. *Poly-America*, 839 F.3d at 1136 (internal citations omitted).

ARGUMENT

A. “Permanently”

Claim Term	Banhazl’s Proposed Construction	Defendant’s Proposed Construction
“permanently”	Plain and ordinary meaning. Preamble not limiting.	In a way that exists perpetually.

Asserted claims 1 and 8 refer in the preamble to “a method of **permanently** transferring an image to a substrate having a glossy surface.” The parties proposed definitions for this term are set forth above.

Banhazl asserts that “permanently” should be given its plain and ordinary meaning within the context of the asserted claims and should not be treated as limiting. Examples of the use of “permanently” in the specification of the ’237 Patent are set forth in the chart below.

Term	Use in ’237 Patent’s Specification	’237 Patent Citation
“permanently”	“Existing methods for permanently affixing images including print or photographs onto ceramic surfaces require extensive time, skilled labor and expensive equipment.”	Col. 1, Lns. 27-29.
“permanent”	“With the advent of inexpensive mass marketed, “off-the shelf” black and white laser printers and copiers equipped with iron oxide containing toners, studio artists discovered that printed images containing iron oxide toner could be printed onto fire able substrates and fired in a kiln resulting in an iron oxide pigmented permanent image.”	Col. 2, Lns. 15-21.
“permanently”	“Colored glazes, for example Mayco Stroke and Coat Colors, may also be added after the decal has been firing by painting them directly on top of the permanently affixed fired image.”	Col. 5, Lns. 63-66.

Banhazl asserts that “permanently” should be given its plain and ordinary meaning as the specification of the ’237 Patent does not reveal any special definition for the term. *See Phillips*, 415 F.3d at 1312. Claims are generally given their ordinary and customary meaning, as understood by one of ordinary skill in the art at the time of the invention after reading the entire patent. *Id.*

The customary definition of permanently is “in a way that lasts or remains unchanged indefinitely.”¹ Each use of the term “permanently” within the ’237 Patent is consistent with this

¹ *Permanently*, New Oxford American Dictionary (3rd ed. 2010) attached hereto as Exhibit 2.

definition. *See* '237 Patent at Col. 1, Lns. 17-31; Col. 2, Lns. 15-20, 59-64; Col. 3, Lns. 10-13, 20-24; Col. 4, Lns. 8-9, 38-40, 44-51.

Defendant argues that the term “permanently” as used in the preambles of claims 1 and 8 is limiting because the preamble provides antecedent basis for the terms “glossy surface,” “substrate,” and “image.” In general, a preamble limits the invention if it recites essential structure or steps, or if it is “necessary to give life, meaning, and vitality” to the claim. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999). Dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention. *See Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995).

Conversely, a preamble is not limiting “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997). A preamble generally is not limiting if deletion of the preamble phrase does not affect the structure or steps of the claimed invention. *See IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1434 (Fed. Cir. 2000). Deleting the term “permanently” does not affect the structure or the steps of the claimed method. In fact, the term “permanently” merely describes the inevitable outcome of the claimed method. As the examples in the above chart show, the permanently affixed image is the ultimate result of the claimed method. Whether or not the term “permanently” is included, the result of the claimed method will be a permanently affixed image.

Furthermore, even if the use of “substrate,” “image,” and “glossy surface” in the preamble is found to be limiting, the term “permanently” is not automatically considered limiting as well by association. In *TomTom*, the district court held that because the phrase “at least one mobile unit” provides an antecedent basis for the later use of the terms “said mobile unit” and “the mobile unit”

in the body of the claim, the entire preamble must be construed as a limitation. *TomTom, Inc. v. AOT Sys. GmbH*, 56 F. Supp. 3d 767, 780 (E.D. Va. 2014) ("Thus, because claim 1 relies on its preamble for antecedent basis [for the mobile unit], the [other] disputed claim terms in the preamble must be construed.") The Federal Circuit, however, disagreed and decided that "the phrase in the preamble 'destination tracking system of at least one mobile unit' provides a necessary structure for claim 1 does not necessarily convert the entire preamble into a limitation, particularly one that only states the intended use of the invention." *TomTom, Inc. v. Adolph*, 790 F.3d 1315, 1323 (Fed. Cir. June 19, 2015). In other words, the entire preamble was not construed as a limitation just because a portion of the preamble provided antecedent basis for the claim terms.

The term "permanently" is used only in the preambles of claims 1 and 8. Thus, the use of "permanently" in the preamble does not provide antecedent basis for the term "permanently" in the claim body, since no such use of the term exists in the claim body. Accordingly, the term "permanently" in the preambles of claims 1 and 8 is not limiting even if the remainder of the preamble is found to provide the antecedent basis for the claim terms "image," "glossy surface," and "substrate."

B. "Glossy surface"

Claim Term	Banhazl's Proposed Construction	Defendant's Proposed Construction
"Glossy surface"	Plain and ordinary meaning, or the outside of a glazed ceramic piece fired in a kiln or a glass object.	Defines "substrate having a glossy surface" as a glaze-coated or inherently glossy object in which an additional glaze is applied to the object prior to an image being applied to the object via a transfer agent.

Several asserted claims of the '237 Patent also recite transferring an image to a "glossy surface." The parties proposed different definitions for this term as set forth above. Banhazl

proposes defining “glossy surface” consistent with its plain and ordinary meaning in the art as the “outside of a glazed ceramic piece fired in a kiln or a glass object.” This definition is supported by the specification of the ’237 Patent. Examples of the use of “glossy surface” in the ’237 Patent are set forth in the chart below:

Term	Use in ’237 Patent’s Specification	’237 Patent Citation
“glossy surface”	“In exemplary embodiments of the present invention, a substrate may be acquired already glazed or, in the example of bisque, it may have a glaze applied to obtain a glossy surface .”	Col. 4, Lns. 11-16.
“glossy surface”	“In exemplary embodiments of the present invention, a glossy substrate may be made to have a glossy surface through the application of a glaze prior to applying an image via the transfer agent.”	Col. 4, Lns. 29-32.

The specification of the ’237 Patent does not reveal any special definition for the term “glossy surface.” The term “surface” is commonly defined as “the outside part or uppermost layer of something.”² Furthermore, the specification defines “glaze” as “the coating that becomes a glossy surface after being applied to an object and fired in a kiln.” ’237 Patent, Col. 4, Lns. 10-11. Therefore, the “glossy surface” is the glaze coating outside the ceramic piece after being fired in a kiln, consistent with its plain and ordinary meaning as proposed by Banhazl.

Defendant’s proposed construction of the term “substrate having a glossy surface” directly conflicts with the specification. The Defendant’s construction adds the step of an “additional glaze” to the claimed method. Such a step is not found within the claim language nor the specification. *See* ’237 Patent. In fact, as the examples above illustrate, the specification suggests that a substrate is to be glazed only once to obtain a glossy surface, whether the substrate was

² *Surface*, New Oxford American Dictionary (3rd ed. 2010) attached hereto as Exhibit 2.

originally glazed or was acquired unglazed and required a glaze coating prior to affixing the image. *See* '237 Patent, Col. 4, Lns. 25-29 (“‘Glossy Substrate’ refers to the surface of an object after it has been coated with a ceramic glaze or is inherently glossy (i.e. glass or commercially available glazed ceramic pieces) and is capable of withstanding the firing temperatures of a kiln.”). Neither the claim language nor the specification of the '237 Patent states that an already glazed substrate requires an additional glaze prior to affixing the image. Reading an additional step into the claim without support from the claim language or the specification - especially when the additional step directly conflicts with the specification – is clearly erroneous.

Moreover, Defendant’s construction is antithetical to how an ordinary person of skill in the art would interpret the term. Banhazl Decl. attached hereto as Exhibit 3. Glazing an already glazed ceramic is not a common nor accepted practice in the art of ceramics. *Id.* at ¶ 8. “Double-glazing” often yields unpredictable results and is used to patch a fault in the first glaze coating. *Id.* at ¶ 9. Most individuals experienced with making and firing ceramics would recommend destroying the unsatisfactory piece and starting from scratch rather than double-glaze to correct a fault. *Id.* at ¶ 9-10; Cindi Anderson, *How to Re-Glaze a Piece*, Big Ceramic Store, http://www.bigceramicstore.com/info/ceramics/tips/tip6_reglaze.html (*last visited* Sept. 6, 2017) (“[T]he process [of re-glazing] is never predictable. In most cases you can make a new piece in less time than you can spend re-glazing it, with much more predictable results.”). Therefore, Defendant’s effort to construe this term to avoid infringement with an unsupported and nonsensical construction is improper, and such a definition should not be adopted.

C. “Film covered transfer paper” or “transfer paper”

Claim Term	Banhazl’s Proposed Construction	Defendant’s Proposed Construction
“film covered transfer paper” or “transfer paper”	Paper backing stock bonded to a thin plastic layer by an adhesive which releases when moistened; also referred to as water slide decal paper.	Decal paper that is pre-coated with a film and acts as a transfer agent.

Asserted claims 1, 6, 7, and 8 refer to using “film covered transfer paper” to embed an image onto a substrate. The parties’ proposed different definitions for these terms are set forth above.

Banhazl’s proposed definition of “film covered transfer paper” is supported by the specification of the ’237 Patent. The specification also refers to these papers as “Water Slide Decal Paper.” In fact, the specification defines “Water Slide Decal Paper” as the commercial nomenclature for the film covered transfer papers used in this invention. *See* ’237 Patent at Col. 5, Lns. 11-14. Thus, Banhazl’s proposed construction, which refers to the transfer paper as waterslide decal paper, is proper. Examples of both “film covered transfer paper” and “waterslide decal paper” used interchangeably in the ’237 Patent are set forth in the chart below.

Term	Use in ’237 Patent’s Specification	’237 Patent Citation
“decal paper”	“In this invention, as in a typical unfired decal application, an image is printed on top of the film layer and then the decal paper is dipped in water where the paper bottom sheet separates and is discarded.”	Col. 2, Lns. 56-61.
“film layer of this type of transfer paper”	“In this invention it has been discovered that when an iron oxide containing image is printed on the film layer of this type of transfer paper , adhered to a glazed ceramic surface, and subjected to the firing temperatures of a kiln, the residual adhesive, the polymer additives of the toner, and the film under the image, melts or evaporates away.”	Col. 3, Lns. 4-10.
“film covered waterslide decal paper”	“The digital image is printed onto a piece of film covered waterslide decal paper .”	FIG. 1, ref. no. 8.

“film waterslide covered decal paper”	“Image printed onto film covered waterslide decal paper via black and white laser printer.”	FIG. 2, ref. no. 20.
“film waterslide covered decal paper”	“Image printed onto film covered waterslide decal paper via black and white photocopier.”	FIG. 2, ref. no. 22.

The '237 Patent specification further explains how the waterslide decal paper is the same commercially available decal paper traditionally used to make unfired decals:

This commercially available pre-coated decal paper is commonly used to make unfired decals for hobby models and other low temperature arts and craft applications. In this invention, as in a typical unfired decal application, an image is printed on top of the film layer and then the decal paper is dipped in water where the paper bottom sheet separates and is discarded. The film layer with the image printed on top is adhered to a previously glazed ceramic surface in the conventional way. But unlike the unfired decal application method, in this invention the glazed ceramic piece with image adhered is then fired in a kiln to permanently affix the image.

'237 Patent, Col. 2, Lns. 53-64. Banhazl's proposed construction includes the specific reference to the commercially available waterslide decal paper, and the specifics of how said paper is used in this invention.

Defendant's proposed construction of “decal paper that is pre-coated with a film and acts as a transfer agent” is unduly broad and, therefore, not properly tied to the '237 Patent's disclosures. The claims of the '237 Patent should be construed to make them consistent with, and no broader than, the invention disclosed in the specification. *See On Demand*, 442 F.3d at 1340 (“[C]laims cannot be of broader scope than the invention that is set forth in the specification.”); *Phillips*, 415 F.3d at 1316 (“[C]laims must be construed so as to be consistent with the specification, of which they are a part.”). Defendant's definition ignores the specification's numerous references to waterslide decal paper and the step of soaking said paper in water to remove the paper backing.

Furthermore, Defendant’s proposed construction of “film covered transfer paper” as “decals paper that is pre-coated with a film and acts as a transfer agent” fails to actually define the term and, instead, provides a circular definition. Such a circular definition cannot clarify any ambiguity within the terms, which is the goal of claim construction. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“[C]laim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims.”). Therefore, Defendant’s proposed construction is clearly improper and should not be adopted. *See Sparton Corp. v. U.S.*, 68 Fed. Cl. 34, 47 (2005) (“To the extent that [Plaintiffs’] proposed meaning is a circular definition (i.e., one that uses the word that it attempts to define in the definition itself), it is clearly improper.”); *see also SurfCast, Inc. v. Microsoft Corp.*, 6 F. Supp. 3d 136, 171 (D. Me. 2014).

D. “Having the image printed,” “image is printed,” and “printing the image”

Claim Term	Banhazl’s Proposed Construction	Defendant’s Proposed Construction
“having the image printed,” “image is printed,” or “printing the image”	Reproduce an exact likeness in printed form using off the shelf equipment requiring no customization.	Having the image printed using a black and white laser printer or photocopier.

Asserted claims 1, 6, and 8 refer to “printing” an image onto the film side of transfer paper. The parties’ proposed different definitions for these terms are set forth above. Banhazl’s proposed definition of “having the image printed,” “image is printed,” or “printing the image” is supported by the specification of the ’237 Patent. Examples of the use of these terms are set forth in the chart below.

Term	Use in ’237 Patent’s Specification	’237 Patent Citation
“image is printed”	“The digital image is printed using an HP 2100 laser printer onto a piece of film covered water slide decal paper, for example, Lazertran Fotocal FC Paper or Bel Inc. Laser Decal Paper.	Col. 5, Lns. 39-42.

“image printed”	“The bottom paper layer is discarded and the top film layer of the decal paper with the image printed on it is positioned onto the surface of the glazed ceramic plate.”	Col. 5, Lns. 45-47.
“image is printed”	“In this invention, as in a typical unfired decal application, an image is printed on top of the film layer and then the decal paper is dipped in water where the paper bottom sheet separates and is discarded.”	Col. 2, Lns. 56-59.

As included in Banhazl’s proposed definition, the ’237 Patent specification particularly indicates that standard equipment is used to print an image without adjustments:

The printing technique of this invention uses standard off the-shelf black and white laser printers or photocopiers’ containing iron oxide based toners and requires no special adjustments or accommodations of the original machines.

’237 Patent, Col. 3, Lns. 25-28. The specification also distinguishes from prior art that required the image to be printed as a mirror image to the original. *See* ’237 Patent at Col. 2, Lns. 9-14. This was in order to make the direct contact with the ceramic surface previously thought necessary to affix the image. *See id.*

The core of this invention is in its simplicity: no such manipulation of the image is necessary because this method allows the image to be printed as its exact likeness. *See* ’237 Patent Abstract and FIG. 1. Banhazl’s proposed construction incorporates this core element of the invention into the claim. *See Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (“where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims”); *see also, Phillips*, 415 F.3d at 1315–17. (“[T]he interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.”); *see also, Poly-America*, 839 F.3d at 1136 (“[A]n inventor may disavow claims lacking a particular feature when the specification distinguishes or disparages prior art based on the absence of that feature.”) (citations omitted).

Defendant's proposed construction, on the other hand, ignores this core element of simplicity and, thus, should not be adopted. Such a construction would eliminate an element of the invention that distinguishes it from the prior art. Defendant's proposed construction is also a circular definition which defines "having the image printed" to mean "having the image printed." As discussed above, using such a tautological definition is meaningless to the goal of clarifying the claim terms. Instead, Banhazl's construction should be adopted because it offers a proper definition that encompasses the ease of printing the exact image without manipulation of the image while using standard equipment.

- E. "Transferring the film to the glossy surface" or "transferring the film with the image onto the glossy surface"

Claim Term	Banhazl's Proposed Construction	Defendant's Proposed Construction
"transferring the film to the glossy surface" or "transferring the film with the image onto the glossy surface"	Adhering film onto the outside of a ceramic or glass piece without flipping over or adding adhesive	None

Although the claims of the '237 Patent use the term "transferring the film [...]," the claim term "must be read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1315 (internal citation omitted); *see also Markman*, 517 U.S. at 389 ("[A claim] term can be defined only in a way that comports with the instrument as a whole."). The specification consistently describes the claimed step of "transferring the film to the glossy surface" as adhering the film to the surface of the substrate. *See* '237 Patent at Col. 5, Lns. 21-24. As the term "transferring the film [...]" in the claims replaces the term "adhere," as described in the specification, the terms should be read as equivalent.

Banhazl's proposed construction is supported by the specification, and the conventional use of the transfer paper as previously discussed. Using waterslide decal paper requires printing

the image onto the film, soaking the paper in water, sliding the paper backing off of the film, and adhering the film to the substrate of choice. *See* '237 Patent, Col. 2, Lns. 53-64. Banhazl's definition incorporates these necessary steps into their proposed definition of the transfer process.

Banhazl's proposed construction further incorporates the simplicity of the claimed method which does not require flipping the film to ensure the image makes direct contact with the surface of the substrate. The inventiveness of this method exists in its counterintuitive application of the film:

This invention uses a counterintuitive application of a transfer material previously used exclusively for non-kiln fired decal applications. **Because the printed image is applied with a layer of film sandwiched between the image and the substrate it is counterintuitive to believe that the image would survive the high firing temperatures of a kiln without being corrupted during the melting phase of the film.** In this invention it has been discovered that when an iron oxide containing image is printed on the film layer of this type of transfer paper, adhered to a glazed ceramic surface, and subjected to the firing temperatures of a kiln, the residual adhesive, the polymer additives of the toner, and the film under the image, melts or evaporates away. The iron oxide pigment in the toner remains intact and sinks into the surface of the softening glaze, thus permanently fusing a high quality reproduction of the original image to the ceramic surface.

'237 Patent, Col. 2, Ln. 70 – Col. 3, Lns. 13 (emphasis added). Therefore, sandwiching the film between the image and the substrate is at the core of the invention. *See id.* To do otherwise, placing the printed image directly onto the substrate, would require the image to be printed as a mirror image, and then the film to be flipped over before placed onto the substrate.

As mentioned above, the specification clearly disavows this practice. *See* '237 Patent, Col. 2, Lns. 10-14. Not only does the specification disparage the prior art requiring a mirror image and the “transfer gymnastics” of flipping the film over as “tricky and time-consuming,” the counterintuitive nature of the invention depends on the sandwiched position. *See* '237 Patent, Col. 2 at Lns. 13-14. Therefore, Banhazl's proposed construction should be adopted because the avoidance of flipping the film in the transfer process is a necessary limitation at the heart of the

invention. *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (“where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply, it is entirely permissible and proper to limit the claims”); *see also Poly-America*, 839 F.3d at 1136 (“[A]n inventor may disavow claims lacking a particular feature when the specification distinguishes or disparages prior art based on the absence of that feature.”) (citations omitted).

F. “Evaporate”

Claim Term	Banhazl’s Proposed Construction	Defendant’s Proposed Construction
“evaporate”	Melt; process of removing materials through vaporization.	To convert into vapor (<i>i.e.</i> , a substance in gaseous form that is in liquid or solid form under normal conditions).

Asserted claims 1 and 8 refer to the patented method “heating the substrate with the film to a temperature sufficient to **evaporate** the film and to embed the image into the glossy surface.” The parties proposed different definitions for these terms as set forth above.

Banhazl’s definition of “evaporate” as “melt; process of removing materials through vaporization” is supported by the specification of the ’237 Patent. Examples of the use of “evaporate” in conjunction with “melts” and examples of language indicating evaporation removes the film materials, are set forth in the chart below.

Term	Use in ’237 Patent’s Specification	’237 Patent Citation
“evaporates”	“It is then fired in a kiln where the surface of the glossy substrate softens and the film of the transfer agent melts or evaporates away leaving the iron oxide pigmented image permanently fused to the glossy substrate.”	Abstract of ’237 Patent
“evaporates”	“In this invention, it has been discovered that when an iron oxide containing image is printed on the film layer of this type of transfer paper, adhered to a glazed ceramic surface, and subjected to the firing temperatures of a kiln, the residual adhesive, the	Col. 3, Lns. 4-10.

	polymer additives of the toner, and the film under the image, melts or evaporates away. ”	
“evaporate”	“During this firing process the decal’s film layer, residual adhesive, and the polymer additives of the toner melt and or evaporate leaving just the iron oxide pigment of the print and the color from any colored glazes that were used, permanently affixed to the surface.”	Col. 5, Lns. 54-60.

In each depiction of “evaporate” in the specification of the ’237 Patent, all of which are included in the above chart, the term “evaporate” is used in conjunction with “melt.” This consistent pairing suggests that the terms “melt” and “evaporate” are interchangeable, and are therefore equivalent.

Also, the language surrounding each use of the term “evaporate” clearly articulates the use of vaporization to remove various materials, including “residual adhesive, the polymer additives of the toner, and the film under the image.” *See* ’237 Patent at Col. 3, Lns. 8-10. For example, the Abstract of the ’237 Patent states that “[the substrate] is then fired in a kiln where the surface of the glossy substrate softens and **the film of the transfer agent melts or evaporates away leaving** the iron oxide pigmented image permanently fused to the glossy substrate.” Abstract of ’237 Patent (emphasis added). The use of the terms “away” and “leaving” clearly indicates that the process of vaporization results in the removal of the film materials from the substrate.

The claims of the ’237 Patent should be construed to make them consistent with, and no broader than, the invention disclosed in the specification. *See On Demand*, 442 F.3d at 1340 (“[C]laims cannot be of broader scope than the invention that is set forth in the specification.”); *Phillips*, 415 F.3d at 1316 (“[C]laims must be construed so as to be consistent with the specification, of which they are a part.”). Defendant’s definition of “to convert into vapor (*i.e.*, a substance in gaseous form that is in liquid or solid form under normal conditions)” should not be adopted because it ignores the context and references to this term within the ’237 Patent’s

specification. Defendant’s proposal of “evaporate” as simply “to convert into vapor (*i.e.*, a substance in gaseous form that is liquid or solid form under normal conditions)” ignores the drafter’s intent to associate the terms “melt” and “evaporate” with the specific process of removing the film residue, along with other materials, from the substrate which results in a permanent transfer of an image onto a substrate. On the other hand, Banhazl’s proffered construction of “evaporate” is entirely consistent with references to this term in the ’237 Patent’s specification and claims.

Further, defining the term “evaporate” as “melt; process of removing materials through vaporization” is consistent with its ordinary meaning to “lose or cause to lose moisture or solvent as vapor.”³ Thus, Banhazl’s proposed construction should be adopted.

G. “Embed”

Claim Term	Banhazl’s Proposed Construction	Defendant’s Proposed Construction
“embed(s)”	Sink into.	To fix or be fixed into a surrounding mass permanently (<i>i.e.</i> , in a way that exists perpetually).

The term “embed(s)” is also referred to in asserted claims 1 and 8: “heating the substrate with the film to a temperature sufficient to evaporate the film and to **embed** the image into the glossy surface.” Banhazl proposed the definition of “sink into,” as set forth above. In short, once again, both the language of the claims themselves and the specification support Banhazl’s proposed construction.

Aside from claims 1 and 8, there are no further uses of the term “embed” in the claims or the specification of the ’237 Patent. However, the term “sink(s) into” replaces the term “embed(s)”

³ *Evaporate*, New Oxford American Dictionary, (3rd ed. 2010) attached hereto as Exhibit 2.

in the specification's descriptions of this step of the claimed method, examples of which are set forth in the chart below.

Term	Use in '237 Patent's Specification	'237 Patent Citation
"sinks into"	"The iron oxide pigment in the toner remains intact and sinks into the surface of the softening glaze, thus permanently fusing a high quality reproduction of the original image to the ceramic surface."	Col. 3, Lns. 10-15.
"sink in"	"The firing temperature of the transfer is often the same or slightly lower than the firing temperature of the original glaze coating of the glossy substrate so that the surface may soften just enough to allow the print to permanently sink in ."	Col. 4, Lns. 47-51.
"sink permanently into"	"The original glaze covering of the plate softens during firing allowing the iron oxide pigment and additional colored glazes to sink permanently into the plate's surface."	Col. 5, Lns. 60-62.

Although the claims of the '237 Patent use the term "embed(s)," the claim term "must be read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1315 (internal citation omitted); *see also*, *Markman*, 517 U.S. at 389 ("[A claim] term can be defined only in a way that comports with the instrument as a whole."). The specification consistently describes the claimed step of "embed[ing]" an image onto the substrate as the toner's and/or colored glaze's pigment "sink[ing]" into the surface of the substrate. *See* '237 Patent at Col. 3, Lns. 10-15; Col. 5, Lns. 60-62. As the term "embed" in claims 1 and 8 replaces the term "sink(s) into," as described in the specification, the terms should be read as equivalent.

Further, the specification of the '237 Patent does not reveal any special definition for the term "embed," so it should be construed consistent with its ordinary meaning. *See Phillips*, 415 F.3d at 1312. Defining the term "embed" as "sink into" is consistent with its ordinary meaning to "fix (an object) firmly and deeply in a surrounding mass."⁴ Thus, Banhazl's proposed construction should be adopted.

⁴ *Embed*, New Oxford American Dictionary (3rd ed. 2010) attached hereto as Exhibit 2.

CONCLUSION

For the reasons set forth above, Plaintiff Terrie Banhazl respectfully requests that this Court adopt Plaintiff's proposed constructions for each of the disputed claims of the patent in suit.

September 8, 2017

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on September 8, 2017 the foregoing document was served electronically on all counsel of record via the Court's ECF filing system.

/s/ Lucia A. Passanisi